

IN THE CLAIMS:

Claims 6, 13 and 14 were previously cancelled. None of the claims have been amended herein. All of the pending claims are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as previously amended.

1. (Previously presented) A method for assembling an electronic device package comprising:

forming a package shell having an aperture formed in a first surface thereof and a second-side cavity formed in a second surface thereof and in communication with the aperture, the second-side cavity having an outside perimeter that is larger than an outside perimeter of the aperture to form a cavity first surface in the second-side cavity;

forming at least one solder pad on at least the second surface of the package shell;

mounting an optically interactive microelectronic device having an active surface within the second-side cavity such that at least a portion of the active surface is exposed through the aperture and the second surface of the package shell protrudes beyond the optically interactive microelectronic device, wherein mounting an optically interactive microelectronic device comprises:

forming at least one terminal pad on the cavity first surface that is operably coupled to the at least one solder pad;

forming at least one conductive element on the active surface of the optically interactive microelectronic device; and

bonding the at least one conductive element to the at least one terminal pad;

depositing a transparent encapsulant within the aperture to cover the at least a portion of the active surface exposed therethrough; and

covering the aperture with a transparent lid.

2. (Previously presented) The method of claim 1, wherein depositing a transparent encapsulant comprises depositing the transparent encapsulant to a level that fills the aperture and covers a portion of the first surface of the package shell surrounding the aperture.

3. (Previously presented) The method of claim 2, wherein covering the aperture with a transparent lid comprises:
lowering the transparent lid onto the first surface of the package shell; and
holding the transparent lid in place by adhesion to the transparent encapsulant.

4. (Previously presented) The method of claim 3, wherein the optically interactive microelectronic device has a plurality of side surfaces, and further comprising:
squeezing the transparent encapsulant out of a second side of the aperture within the second-side cavity to at least partially encase at least one side surface of the plurality of side surfaces of the optically interactive microelectronic device.

5. (Previously presented) The method of claim 4, further comprising:
leaving a back surface of the optically interactive microelectronic device exposed within the second-side cavity.

6. (Cancelled)

7. (Previously presented) The method of claim 1, wherein forming at least one conductive element comprises forming at least one conductive bump on the active surface of the optically interactive microelectronic device.

8. (Original) The method of claim 7, further comprising:
forming the at least one terminal pad and the at least one conductive bump to comprise gold.

9. (Original) The method of claim 1, further comprising:
selecting the optically interactive microelectronic device to be an image sensor chip.
10. (Original) The method of claim 1, wherein forming a package shell further
comprises forming the package shell of a ceramic.
11. (Original) The method of claim 1, further comprising:
forming the transparent lid of glass.
12. (Previously presented) A method for assembling an electronic device package
comprising:
forming a package shell of a ceramic having an aperture formed in a first surface thereof and a
second-side cavity formed in a second surface thereof and in communication with the
aperture, the second-side cavity having an outside perimeter that is larger than an outside
perimeter of the aperture to form a cavity first surface in the second-side cavity;
forming a ledge surface in the second surface of the package shell around the second-side cavity;
forming at least one solder pad on the package shell at least onto the second surface of the
package shell;
covering the aperture with a transparent lid, wherein covering the aperture with a transparent lid
comprises integrally forming the transparent lid with the package shell during a ceramic
firing process;
mounting an optically interactive microelectronic device having an active surface within the
second-side cavity such that at least a portion of the active surface is exposed through the
aperture and the second surface of the package shell protrudes beyond the optically
interactive microelectronic device; and
covering the second-side cavity with a backing cap.
13. (Cancelled)

14. (Cancelled)

15. (Previously presented) The method of claim 12, wherein covering the aperture with a transparent lid comprises:
forming a depression in the first surface of the package shell; and
seating the transparent lid within the depression.

16. (Original) The method of claim 12, wherein covering the aperture with a transparent lid comprises hermetically bonding the transparent lid to the package shell with an adhesive material.

17. (Previously presented) A method for assembling an electronic device package comprising:
forming a package shell having an aperture formed in a first surface thereof and a second-side cavity formed in a second surface thereof and in communication with the aperture, the second-side cavity having an outside perimeter that is larger than an outside perimeter of the aperture to form a cavity first surface in the second-side cavity;
forming a ledge surface in the second surface of the package shell around the second-side cavity;
forming at least one solder pad on the package shell at least onto the second surface of the package shell;
covering the aperture with a transparent lid;
mounting an optically interactive microelectronic device having an active surface within the second-side cavity such that at least a portion of the active surface is exposed through the aperture and the second surface of the package shell protrudes beyond the optically interactive microelectronic device, wherein mounting an optically interactive microelectronic device comprises:

forming at least one terminal pad on the cavity first surface that is operably coupled to the at least one solder pad;
forming at least one conductive element on the active surface of the optically interactive microelectronic device; and
bonding the at least one conductive element to the at least one terminal pad; and
covering the second-side cavity with a backing cap.

18. (Original) The method of claim 17, wherein forming at least one conductive element comprises forming at least one conductive bump on the active surface of the optically interactive microelectronic device.

19. (Original) The method of claim 18, further comprising:
forming the at least one terminal pad and the at least one conductive bump to comprise gold.

20. (Previously presented) The method of claim 12, wherein covering the second-side cavity with a backing cap comprises:
forming a compression member on the backing cap; and
contacting a back surface of the optically interactive microelectronic device with the compression member.

21. (Original) The method of claim 20, wherein forming a compression member comprises forming at least one gold trace on the backing cap.

22. (Previously presented) The method of claim 12, wherein covering the second-side cavity with a backing cap comprises:
hermetically sealing the backing cap to the ledge surface with an adhesive material.

23. (Original) The method of claim 12, further comprising forming the backing cap of a ceramic.

24. (Original) The method of claim 12, further comprising:
selecting the optically interactive microelectronic device to be an image sensor chip.

25. (Original) The method of claim 12, further comprising:
forming the transparent lid of glass.

26. (Previously presented) A method for assembling an electronic device package comprising:
forming a package shell having an aperture formed in a first surface thereof and a second-side cavity formed in a second surface thereof and in communication with the aperture, the second-side cavity having an outside perimeter that is larger than an outside perimeter of the aperture to form a cavity first surface in the second-side cavity;
forming at least one solder pad on at least the second surface of the package shell;
mounting an optically interactive microelectronic device having an active surface within the second-side cavity such that at least a portion of the active surface is exposed through the aperture;
depositing a transparent encapsulant within the aperture to a level that fills the aperture and covers a portion of the first surface of the package shell surrounding the aperture and covers the at least a portion of the active surface exposed therethrough; and
covering the aperture with a transparent lid.

27. (Previously presented) The method of claim 26, wherein covering the aperture with a transparent lid comprises:
lowering the transparent lid onto the first surface of the package shell; and
holding the transparent lid in place by adhesion to the transparent encapsulant.

28. (Previously presented) The method of claim 27, wherein the optically interactive microelectronic device has a plurality of side surfaces, and further comprising: squeezing the transparent encapsulant out of a second side of the aperture within the second-side cavity to at least partially encase at least one side surface of the plurality of side surfaces of the optically interactive microelectronic device.

29. (Previously presented) The method of claim 28, further comprising: leaving a back surface of the optically interactive microelectronic device exposed within the second-side cavity.